Impact of the isolation medium for the detection of OXA-48 and KPC-producing
Gram negative bacteria by immunochromatographic assays

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Day 2

Introduction and Purpose

The development of new rapid diagnostic tests to track antimicrobial resistance constitutes one priority.
Here in the context of multiple resistances. We recently developed two lateral flow immunologic tests (ICA): OXA-48 K-SeT and KPC K-SeT. Cols, Brussels, Belgium for direct confirmation of OXA-48-like and KPC-like carbapenemase based on monoclonal antibodies that were generated by immunization in mice. The evaluation of these two ICAs was already performed showing 99.5% sensitivity and specificity.

Materials and methods

Culture isolation media:

Fresh overnight culture is not needed.

Molecular testing:

Detection of OXA-48-like carbapenemase producers from strains grown on 10 media using the OXA-48 K-SeT.

Results

A. OXA-48 K-SeT: 23 Enterobacteriaceae on 18 different culture media

B. Immunochromatographic assay (ICA) for the detection of OXA-48-like

C. Aged cultures: 1 strain OXA-48 and 1 strain OXA-181 were grown on 3 different media and tested with OXA-48 K-SeT during 15 consecutive days.

Conclusions

OXA-48 and KPC K-SeTs are very robust assays:

Various isolation media are compatible with these tests including Drigalski and McConkey.

Colonies do not need to be freshly cultured.

Simple and easy to implement as first line testing for rapid confirmation OXA-48 and KPC.

References


2. Briliance CRE

3. ChromID ESBL

4. chromID BLSE

5. AUAC CRE

6. CBS CRE


8. Adapted from the National Academy of Clinical Biochemistry Project - VI 100630.